

KwaZulu-Natal: Department of Education and Development Bank of Southern Africa



Occupational health and safety specification for the design, planning and construction of Inkosi Mkhuphukeli Secondary School

Proudly prepared by

EMPOWERisk Management Services (Pty) Ltd



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Occupational health and safety specification for the design, planning and construction of Inkosi Mkhuphukeli Secondary School

1. Definitions

In this document the following expressions shall bear the meanings assigned to them below:

- 1.1 **Client** means any person for whom construction work is being performed and/or undertaken [i.e. KwaZulu-Natal: Department of Education and Development Bank of Southern Africa for purposes of this specification];
- 1.2 **Construction Regulations** means the Occupational Health and Safety Act's, No 85 of 1993, new Construction Regulations (GNR.84 of 07 February 2014) that came into effect on 01 March 2014;
- 1.3 **Occupational health and safety plan** means a sufficiently documented plan to the standards of the Client, which addresses hazards identified and includes safe working procedures to mitigate, reduce or control the hazards identified;
- 1.4 **Occupational health and safety specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons working, visiting, passing, staying and/or working close to the construction site and/or other applicable areas such as site camp;
- 1.5 **OHSACT** means the Occupational Health and Safety Act, No 85 of 1993, as amended; and
- 1.6 **Principal Contractor** means an employer, as defined by Section 1 of the OHSACT who performs construction work and is appointed by the Client to be in overall control and management of the construction site and works.

2. Introduction

In terms of Construction Regulation 5(1)(b) of the OHSACT, the Client is required to compile an occupational health and safety specification for any intended project and provide such specification to prospective tenderers/bidders.

This specification has as objective to ensure that the principal contractor entering into a contract with the Client achieves and maintain an acceptable level of occupational health and safety performance and compliance. This document forms an integral part of the contract between the Client and the principal contractor and the principal and other contractors should make it part of any contract/s that they may have with other contractors and/or suppliers as far as this project is concerned.

Compliance with this document does not absolve the principal contractor from complying with any other minimum legal requirements and the principal contractor remains responsible for the health and safety of his employees, those of his mandataries as well as any persons coming on site or on adjacent properties as far as it relates to the construction activities.

3. Scope

To develop a project specific occupational health and safety specification that addresses the reasonable and foreseeable risks, exposures and aspects of occupational health and safety as affected by the abovementioned contract work.

The specification will provide the requirements that the principal contractor and other contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work and that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable and possible.

Any contractor interested in submitting a bid in response to the Client's formal tender for any construction project, has to prepare and include a draft occupational health and safety plan based on this specification and the OHSACT in its tender submission. The Client will evaluate this plan as part of its formal tender adjudication processes to ensure compliance with Construction Regulation 5 that stipulates that the Client may only appoint a contractor who has the necessary competencies and resources to carry of the work appointed for safely.

4. General occupational health and safety provisions

4.1 Hazard identification and risk assessment (Construction Regulation 9)

4.1.1 Risk assessments

Annexure 5 of this specification contains a list of risk assessment headings that have been identified by the Client as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is only offered as assistance to the contractors intending to tender for the applicable works. It therefore remains the overall responsibility of the principal contractor to consider all applicable risks and pro-actively undertake risk assessments and implement appropriate risk mitigation measures.

4.1.2 Development of risk assessments

Every principal contractor performing construction work shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, ensure that risk assessments are undertaken by a competent person, appointed in writing, and the risk assessments shall form part of the occupational health and safety plan and be implemented and maintained as contemplated in Construction Regulation 9(1).

The risk assessments shall include, at least:

- The identification of the current as well as emerging risks and hazards to which persons may be exposed to;
- The analysis and evaluation of the risks and hazards identified;

- A documented plan of safe working procedures (SWP) and any method statements to mitigate, reduce or control the risks and hazards that have been identified;
- A plan to monitor the application of the SWPs; and
- A plan to review the risk assessments as the work progresses and changes are introduced or incidents occurred which requires the re-evaluation of the processes/risk mitigation.

Based on the risk assessments, the principal contractor must develop a set of site-specific occupational health and safety rules that will be applied to regulate the occupational health and safety aspects of the construction.

The risk assessments, together with the site-specific occupational health and safety rules, must be submitted to the Client before mobilisation on site commences.

Despite the risk assessments listed in Annexure 5, the principal contractor is required to conduct a baseline risk assessment and the aforesaid risk assessments must be incorporated into the baseline risk assessment. The baseline risk assessment must further include the SWPs and the applicable method statements based on the risk assessments.

Hazard identification and risk assessments must be undertaken whilst SWPs must be developed for all out-of-scope work.

4.1.3 Review of risk assessments

The principal contractor is to review the hazards identified, the risk assessments and the SWPs at each production planning and progress report meeting as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes.

It is also proposed that should an incident occur the SWPs and all other applicable processes be re-evaluated to ensure that the mitigation measures are still applicable and appropriate and if not a revision of the risk assessments be undertaken.

The principal contractor must provide the Client, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments as soon as possible but within 14 calendar days of such changes.

4.2 Legal Requirements

All Contractors entering into a contract with the Client shall, as a minimum, comply with the -

- OHSACT and a current, up-to-date copy of the OHSACT and its Regulations must be available on site at all times;
- Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 (COIDA) as amended. The principal contractor will be required to submit a letter of registration and “good-standing” from the Compensation Commissioner or compensation insurer before being awarded the contract. A current, up-to-date copy of the COIDA must be available on site at all times; and
- Where work is being carried out on mine premises, the contractor will comply with the Mine Health and Safety Act and Regulations, No 29 of 1996) as amended, the Minerals Act and Regulations, No 50 of 1991 as amended and any other occupational health and safety requirements that the mine may specify. Current, up-to-date copies of these Acts must, if applicable, also be available on site at all times.

4.3 Structure and responsibilities

4.3.1 Overall supervision and responsibility for occupational health and safety

- a. The principal contractor [appointed in terms of Construction Regulation 5(1)(k)] is responsible to implement and maintain the occupational health and safety plan approved by the Client.
- b. The Chief Executive Officer (in terms of Section 16(1) of the OHSACT) of the principal contractor is to ensure that the Employer (as defined in the OHSACT) complies with the OHSACT. Annexure 1 “Legal Compliance Checklist” may be used for this purpose and assistance.
- c. The principal contractor’s Chief Executive Officer may appoint any person reporting to him/her as Designated Person in terms of Section 16(2) of the OHSACT. Such Designated Person is responsible to assist the Chief Executive Officer to ensure that the Employer complies with the requirements of the OHSACT.
- d. The construction manager, assistant construction manager, construction supervisor and assistant construction supervisor(s) appointed in terms of Construction Regulation 8 are responsible for supervising the construction work and in specific to ensure that all work undertaken comply with the requirements of the OHSACT, its Regulations and the Client’s specifications.

4.3.2 Operational responsibilities for occupational health and safety

The principal contractor shall appoint designated **competent employees** and/or other competent persons as outlined in the following list to assist with the operational responsibilities for occupational health and safety. This list is only the minimum requirement and is therefore in no way exhaustive.

Appointment description	Appointment required in terms of
Assistant construction manager	Construction Regulation 8(2)
Assistant construction supervisor	Construction Regulation 8(8)
Construction health and safety officer	Construction Regulation 8(5)
Construction manager	Construction Regulation 8(1)
Construction supervisor	Construction Regulation 8(7)
Construction vehicle, mobile plant and machinery supervisor	Construction Regulation 23
COVID-19 compliance officer	Regulation 16(6) of Government Notice, No R 480
Drivers of construction vehicles and operators of plant	Construction Regulation 23
Electrical installation and appliances inspector	Construction Regulation 24
Emergency, security and fire coordinator	Construction Regulation 29
Excavation supervisor	Construction Regulation 13
Fall risk protection supervisor	Construction Regulation 10
First-aiders	General Safety Regulation 3
Fire fighting equipment inspector	Construction Regulation 29
Hazardous chemical agents supervisor	Regulations for Hazardous Chemical Agents
Incident investigator	General Administrative Regulation 9
Ladder inspector	General Safety Regulation 13(a)
Lifting machines and equipment inspector	Construction Regulation 22
Occupational health and safety committee	OHSACT Section 19
Occupational health and safety representatives	OHSACT Section 17
Person responsible for machinery	General Machinery Regulation 2
Risk assessor	Construction Regulation 9(1)
Scaffolding supervisor	Construction Regulation 16
Stacking and storage supervisor	Construction Regulation 28
Structures supervisor	Construction Regulation 11
Temporary works supervisor	Construction Regulation 12
Traffic safety officer	OHSACT Section 9(1)
Pressure equipment supervisor	Pressure Equipment Regulations
Welding supervisor	General Safety Regulation 9

These appointments must be in writing and the responsibilities clearly stated together with the period for which each appointment is made. This information must be communicated to and agreed with the appointees.

Copies of appointments must be submitted to the Client together with concise CV's (or other applicable proof of competency) of the appointees as part of the principal contractor's health and safety plan and if appointed copies of the appointments included in the occupational health and safety file. All appointments must be approved by the Client and any changes of appointees or appointments must be communicated to the Client and agreed upon before being implemented.

The principal contractor must, furthermore provide the Client with an organogram of all contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

4.3.3 Construction health and safety officer

This project requires the appointment of a full-time construction health and safety officer, appointed in terms of Construction Regulation 8(5). This appointee should be duly registered and in good standing with a statutory body approved by the Chief Inspector as is required by Construction Regulation 8(6).

The South African Council for Project and Construction Management Professions (SACPCMP) is currently the statutory body responsible for the professional registration of construction health and safety officers and a copy of the appointee's SACPCMP's registration certificate should be submitted as part of the principal contractor's health and safety plan and also be readily available in the health and safety file to be kept and maintained on site.

4.3.4 Designation of occupational health and safety representatives (Section 17 of the OHSACT)

Where the principal contractor employs more than 20 persons [including the employees of other contractors (sub-contractors) and its supervisors] he has to appoint one occupational health and safety representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the election, appointment and subsequent designation of the occupational health and safety representatives be executed in consultation with employee representatives or employees. (Section 17 of the OHSACT as well as General Administrative Regulation 6 and 7 refer).

Occupational health and safety representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

4.3.5 Duties and functions of the occupational health and safety representatives (Section 18 of the OHSACT)

- a. The principal contractor must ensure that the designated occupational health and safety representatives conduct a weekly inspection of their respective areas of responsibility, using a checklist, and report thereon to the principal contractor.
- b. Occupational health and safety representatives must be included in accident and/or incident investigations.
- c. Occupational health and safety representatives must attend all occupational health and safety committee meetings.

4.3.6 Appointment of occupational health and safety committee (Section 19 of the OHSACT)

The principal contractor must establish an occupational health and safety committee consisting of all the designated occupational health and safety representatives together with a number of management representatives that are not allowed to exceed the number of occupational health and safety representatives on the committee and a representative of the Client who shall act as the chairperson without voting rights. The members of the occupational health and safety committee must be appointed in writing and copies of the appointments included in the occupational health and safety file.

The occupational health and safety committee must meet as a minimum on a monthly basis and consider, at least, the following agenda items:

1. Opening and welcome.
2. Members present, apologies and absent.
3. Minutes of previous meeting.
4. Matters arising from the previous meeting.
5. Occupational health and safety representatives' reports.
6. Incident and/or accident reports and investigations.
7. Incident, accident and/or injury statistics.
8. Other matters.
9. Endorsement of registers and other statutory documents by a duly authorised representative of the principal contractor.
10. Close and next meeting.

4.4 Mandatories

It is a requirement that the principal contractor, when he appoints contractors or sub-contractors in terms of Construction Regulations 7(1)(c) includes an OHSACT Section 37(2) agreement (i.e. Agreement with Mandatary) in his agreement with such contractor.

4.5 Administrative controls and the occupational health and safety file

4.5.1 The occupational health and safety file [Construction Regulation 7(1)(b)]

As required by Construction Regulation 7(1)(b), the principal contractor and other contractors will each keep an occupational health and safety file on site containing the following documents as a minimum:

1. Copy of the construction work permit (for applicable projects) (Construction Regulation 3)
2. Updated copies of the OHSACT and its Regulations as well as the COID Act (General Administrative Regulation 4.).

3. Proof of registration and good standing with the Compensation Commissioner or a COID Insurer [Construction Regulation 5(1)(j)].
4. Occupational health and safety plan agreed with the Client including the underpinning risk assessment(s) and method statements [Construction regulation 7(1)].
5. Copies of occupational health and safety committee meetings and other relevant minutes.
6. Designs and/or drawings [Construction Regulation 7(1)(b)].
7. A list of contractors (sub-contractors) including copies of the agreements between the parties, proof of good standing with the Compensation Commissioner or COID Insurer, and the type of work to be undertaken by each contractor (Construction Regulation 7).
8. Appointment and designation forms as per paragraphs 4.3.1 and 4.3.2 above.
9. Copy of the construction health and safety officer's SACPCMP registration certificate.
10. The following registers:
 - Accident and/or incident register (Annexure 1 of the General Administrative Regulations);
 - Occupational health and safety representatives' inspection register;
 - Construction vehicles and mobile plant inspections by controller;
 - Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user;
 - Designer's inspections and structures record;
 - Inspection and maintenance of explosive actuated fastening devices;
 - Inspection of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
 - Fall risk protection inspections;
 - First-aid box content;
 - Record of first-aid treatment;
 - Fire equipment inspections and maintenance;
 - Record of hazardous chemical agents kept and used on site;
 - Ladder inspections;
 - Machine safety inspections (including machine guards, lock-outs etcetera);
 - Inspection registers and logbooks for lifting machines and – tackle (including daily inspections by drivers/operators);
 - Inspections of scaffolding;
 - Inspections of stacking and storage;
 - Inspections of structures;
 - Pressure equipment inspections; and
 - Inspections of welding equipment.

12. All other applicable records.

The Client will conduct and evaluation of the principal contractor's occupational health and safety file from time to time.

4.6 Occupational health and safety goals and objectives and arrangements for monitoring and review of occupational health and safety performance

The principal contractor is required to maintain a compensation incidence frequency rate (CIFR) of not more than four (See Annexure 2 to this document: "Measuring Injury Experience") and report on this to the Client on a monthly basis.

4.7 Notification of construction work (Construction Regulation 4)

The principal contractor does not need to notify the Department of Employment and Labour of its intention to carry out construction work as the Client, due to the value of the construction work, needs to apply for a construction work permit in terms of Construction Regulation 3. The principal contractor may not commence with any construction work until a site specific permit number was issued by the Department of Employment and Labour and the principal contractor must display this site specific permit number conspicuously at the entrance to the main site camp.

4.8 Medical certificates of fitness (Construction Regulation 7)

As required by Construction Regulation 7(1)(g), the principal contractor must ensure that all employees have a valid medical certificate of fitness specific to the construction work to be performed. These certificates must be issued by an occupational health practitioner in the form of Annexure 3 (i.e. Annexure 3 in the Construction Regulations).

4.9 Training, awareness and competence

The contents and syllabi of all training required by the OHSACT and Regulations must be included in the principal contractor's occupational health and safety plan.

4.9.1 General induction training

All members of the contractor's site management as well as all the persons appointed as responsible for occupational health and safety in terms of the Construction and other Regulations will be required to attend a general induction session.

All employees of the principal and other contractors must be in possession of proof of general induction training.

All subsequent and newly appointed employees must also be subjected to the induction training as soon as possible after the appointment but prior to starting working on site.

4.9.2 Site-specific induction training

The principal contractor will be required to develop a contract work project specific induction training course based on the risk assessments for the contract work and train all employees and other contractors and their employees in this.

All employees of the principal and other contractors must be in possession of proof that they have attended a site-specific occupational health and safety induction training at all times.

4.9.3 Other training

1. All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training and where applicable licenses or proof of competency.
2. All employees in jobs requiring training in terms of the OHSACT and Regulations must be in possession of valid proof of training.
3. Occupational health and safety training requirements [as required by the Construction Regulations and as indicated by the occupational health and safety specification and the risk assessment(s)] i.e. -
 - a. General induction (Section 8 of the OHSACT);
 - b. Site and job specific induction, including visitors (Sections 8 and 9 of the OHSACT);
 - c. Site and project manager;
 - d. Construction manager;
 - e. Construction supervisor;
 - f. Occupational health and safety representatives [Section 18 (3) of the OHSACT];
 - g. Training of the appointees indicated in paragraphs 4.3.1 and 4.3.2;
 - h. Operators and drivers of construction vehicles and mobile plant (Construction Regulation 23);
 - i. Basic fire prevention and protection (Environmental Regulations 9 and Construction Regulation 29);
 - j. Basic first-aid (General Safety Regulations 3);
 - k. Storekeeping methods and safe stacking (Construction Regulation 28);
 - l. Storage and handling of hazardous chemical agents; and
 - m. Emergency, security and fire coordinator.

4.9.4 Awareness and promotion

The principal contractor is required to have a promotion and awareness programme in place to create an occupational health and safety culture within employees as well as sub-contractors. The following are some of the methods that may be used:

- Toolbox talks
- Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as employee “occupational health and safety circles”.

4.9.5 Notices and signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the contractors’ yards:

Area and/or activity where notice or sign is required	Notice or sign required in terms of
Display of notices and signs	General Safety Regulation 2B and SABS Code 1186
Entry	General Safety Regulation 2C(2)
First-aid	General Safety Regulation 3(6)
Toilets and change rooms	Facilities Regulation 2 (5) 4(2)(f)
Storage of flammable materials	General Safety Regulation 4(8)(a)(i) and (ii) [10(e) only applicable to contractor’s yards]
Grinding wheels	Driven Machinery Regulation 8(1)(7)
Machinery	General Machinery Regulation 9 (Schedule D)
Explosive actuated fastening devices	Construction Regulation 21(2)(f)
Prohibition on smoking and eating or drinking at the workplaces where high risk substances [FR5 (1)] are stored or handled	Facilities Regulation 6(b)
Non-potable water	Facilities Regulation 7(B)
Construction Works Permit	Construction Regulation 3(4)
COVID-19 awareness	COVID-19 best practice

4.9.6 Competence

The principal contractor shall ensure that his and other contractors’ employees appointed are competent and that all training required to undertake the work safely and without risk to health of their or other persons, has been successfully completed before work commences.

The principal contractor shall ensure that follow-up and refresher training is conducted on a regular basis as well as the contract work

progresses and the work situation or requirements changes.

Records of all training must be kept on the occupational health and safety file for auditing purposes.

4.10 Consultation, communication and liaison

The following arrangements will apply-

- 4.10.1 Occupational health and safety liaison between the Client, the principal contractor, the other contractors, the designer and other concerned parties will be through the occupational health and safety committee. In the absence of a health and safety committee, the Client and principal contractor will agree on an alternative communication forum to be implemented.
- 4.10.2 In addition to the above, communication may be directly to the Client or his appointed Agent, verbally (followed up in writing within 14 calendar days) or in writing, as and when the need arises.
- 4.10.3 Consultation with the workforce on occupational health and safety matters will be through their supervisors, occupational health and safety representatives, the occupational health and safety committee and their elected trade union representatives, if any.
- 4.10.4 The principal contractor will be responsible for the dissemination of all relevant occupational health and safety information to the other contractors, for example design changes agreed with the Client and the designer, instructions by the Client and/or his Agent, exchange of information between contractors, the reporting of hazardous and/or dangerous conditions and/or situations etcetera.
- 4.10.5 The principal contractor will be required to do site safety walks with the Client and/or his Agent on a basis to be determined and agreed between the parties.
- 4.10.6 The principle and other contractors will be required to conduct toolbox talks with their employees on at least a weekly basis and records of these including the topics discussed must be kept on the occupational health and safety file. Employees must acknowledge the receipt of toolbox talks which record must, likewise be kept on the occupational health and safety file.
- 4.10.7 The principal contractor's most senior manager on site will be required to attend all the Client's occupational health and safety meetings.
- 4.10.8 The Client or his Agent and the principal contractor will agree on the dates, times and venues of the occupational health and safety meetings.

4.11 Checking, reporting and corrective actions

4.11.1 Monthly compliance assessment by Client [Construction Regulation 5(1)(0)]

The Client will be conducting a periodic assessment to comply with Construction Regulation 5(1)(o) and to confirm that the principal contractor has implemented and is maintaining the agreed and approved occupational health and safety plan.

4.11.2 Other assessments and inspections by the Client

The Client reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary. This could include among others site safety walks.

4.11.3 Conducting an assessment

A representative of the principal contractor must accompany the Client on all assessments and inspections and may conduct his/her own inspection at the same time. Each party will, however, take responsibility for the results of his/her own assessment and/or inspection.

4.11.4 Contractor's assessments and inspections

The principal contractor is to conduct his own internal assessments and inspections to verify compliance with his own occupational health and safety plan and management system as well as the requirements of this specification and the compliance of other contractors under his/her control.

4.11.5 Planned and critical task observations (PTO/CTO)

Planned and critical task observation frequency shall be determined in a risk-based manner, but at least twice a month. Such task observations shall be conducted by duly trained and competent construction supervisor(s) and assistant construction supervisor(s). All deviations and findings identified through the observation shall be managed in accordance with the principal contractor's non-conformance management procedure including guidance and training to the employee(s) concerned. The principal contractor shall make provision for the frequency, tasks to be observed, related safe work procedures and responsible persons in the occupational health and safety plan.

4.11.6 Inspections by occupational health and safety representatives and other appointees

Occupational health and safety representatives must conduct weekly

inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments for example vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

4.11.7 Recording and review of inspection results

All the results of the abovementioned inspections must be in writing, reviewed at occupational health and safety committee meetings, endorsed by the chairperson of the meeting and placed on the occupational health and safety file.

4.11.8 Reporting of inspection results

The principal contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 3: "Safety, Health and Environment Risk Management Report".

4.12 Incident reporting and investigation

4.12.1 Reporting of accidents and incidents (Section 24 and General Administrative Regulation 8 of the OHSACT)

The principal contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb
- is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

or where -

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control

to the Client within two calendar days and to the Provincial Director of the Department of Employment and Labour within seven calendar days from date of incident (Section 24 of the OHSACT and General Administrative Regulation 8), **except** that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident

must be reported to both the Client and the Provincial Director of the Department of Employment and Labour forthwith by telephone, telefax or e-mail. All other reports should still be completed and provided as required.

The principal contractor is required to provide the Client with copies of all statutory reports required in terms of the OHSACT within seven calendar days of the incident occurring.

The principal contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports, including the reports contemplated in 4.11.2 (3) and (4) below, within seven calendar days of the incident occurring.

4.12.2 Accident and incident investigation (General Administrative Regulation 9)

1. The principal contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that he, she and/or they had to be referred for medical treatment by a doctor, hospital or clinic.
2. The results of the investigation to be entered into the accident and/or incident register.
3. The principal contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) and (c) of the OHSACT and keeping a record of the results of such investigations including the steps taken to prevent similar accidents/incidents in future.
4. The principal contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
5. The Client reserves the right to hold its own investigation into an incident or call for an independent external investigation.

5. Operational control

5.1 Emergency preparedness, contingency planning and response

- 5.1.1 The principal contractor must appoint a competent person to act as emergency controller and/or coordinator.
- 5.1.2 The principal contractor must conduct an emergency identification exercise and establish what emergencies (such as health, safety,

environmental, third party or community related actions etcetera) could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the Client may have in place.

- 5.1.3 The principal contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

5.2 First-aid (General Safety Regulation 3)

- 5.2.1 The principal contractor must provide first-aid equipment and have qualified first-aider(s) on site as required by General Safety Regulation 3 of the OHSACT.
- 5.2.2 The contingency plan of the principal contractor must include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or getting emergency medical support to person(s) who may require it.
- 5.2.3 The principal contractor must have firm arrangements with his contractors in place regarding the responsibility of these contractor's first-aid arrangements as well as treatment of injured and/or ill employees.

5.3 Security

- 5.3.1 The principal contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, among others, include the rule that non-employees will not be allowed on site unaccompanied.
- 5.3.2 The principal contractor must ensure that no person under the age of eighteen (18) is allowed to undertake any work on the construction site.
- 5.3.3 The principal contractor must develop a set of project applicable security rules and procedures and maintain these throughout the construction period.

5.4 Accommodation of traffic

To allow for construction vehicles entering and leaving the site to do so in a safe manner, the principal contractor shall -

- 5.4.1 Appoint a competent traffic safety officer to take responsibility for the accommodation of all traffic.
- 5.4.2 Undertake a detailed risk assessment to ensure that all traffic related risks are identified and appropriate risk mitigation measures be established, implemented and maintained. This risk assessment

should be kept on the health and safety file and also duly communicated to all employees and especially operators and drivers of construction vehicles and plant.

- 5.4.3 Develop a comprehensive traffic accommodation plan to provide for traffic entering the site as well as traffic on site, i.e. internal roads and construction areas.
- 5.4.4 Where construction work is undertaken in, next to or close to a public road, the use of appropriate as well as a sufficient number of road signs to be of paramount importance to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/risks/vehicles.
- 5.4.5 Ensure that appropriate as well as a sufficient number of road signs are posted to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/vehicles. These signs shall be repeated and utilised, where appropriate, as actual construction work is approached.
- 5.4.6 Where construction work includes excavations in or next to a public road, warning lights or visible boundary indicators shall be provided after dark or when visibility is poor.
- 5.4.7 The maintenance of all signage and especially those that is suitable after dark shall be duly managed.
- 5.4.8 The community liaison officer (CLO) shall also be sensitised on the optimal management of traffic and the risks involved and then be instructed to increase community awareness through talking to all stakeholders including the distribution of suitable information brochures.

5.5 Work in fall risk positions [Fall protection (Construction Regulation 10)]

- 5.5.1 Although the risk posed by working in a fall risk position is as far as reasonable possible mitigated by the project design, a pre-emptive risk assessment is required for any work to be carried out from a fall risk position.
- 5.5.2 As far as is practicable, any person working in a fall risk position will work from a stable platform, ladder or other device that is at least as safe as if he or she is working at ground level and whilst working in this position be wearing suitable fall arrest equipment to prevent the person falling from the platform, ladder or other device utilised. This fall arrest equipment will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.

Alternatively any edge over which a person may fall shall be fitted with suitable guard rails at two different heights as prescribed in SANS 10085 code of practice for the design, erection, use and inspection of access scaffolding.

- 5.5.3 Where the requirement in paragraph 5.5.2 is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system that is approved by the Client.
- 5.5.4 Where the requirements in paragraph 5.5.3 are not practicable, a suitable catch net, which must be able to sustain the weight of at least the average person working in the elevated position, must be erected.
- 5.5.5 Employees working in fall risk positions must be trained to do this safely and without risk to their or other person's health and safety.
- 5.5.6 Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material, i.e. skylights and openings in the roof.
- 5.5.7 Updated records confirming the physical and psychological fitness of employees working in fall risk positions should be kept on the health and safety file at all times.

5.6 Structures (Construction Regulation 11)

The principal contractor must ensure that:

- 5.6.1 Only skilled employees are allowed to erect structures and that the skills of these employees are being verified at regular intervals.
- 5.6.2 Steps are taken to ensure that no structure becomes unstable or collapses due to construction work being performed on it or in the vicinity of it.
- 5.6.3 No structure is overloaded to the extent where it becomes unsafe.
- 5.6.4 He or she has received from the designer the following information:
 - Information on known or anticipated hazards relating to the construction work and the relevant information required for the safe execution of the construction work.
 - A geo-scientific report (where applicable).
 - The loading the structure is designed to bear.
 - The methods and sequence of the construction process.
 - Any other applicable information.
- 5.6.5 All drawings pertaining to the design are on site, utilised and available for inspection.

5.7 Access scaffolding (Construction Regulation 16)

Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulation 16 and SA Bureau of Standards Code of Practice, SANS 10085 entitled, "The Design, Erection, Use and Inspection of Access Scaffolding".

Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be ensured that there is sufficient material available to erect the scaffolding properly and safely.

Scaffolding must be erected, altered, maintained or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous and direct supervision of such a person.

5.8 Lifting equipment (Construction Regulation 22)

Lifting equipment must be designed and constructed in accordance with the manufactures/designers specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the Driven Machinery Regulation 18 of the OHSACT:

The Driven Machinery Regulation requires that:

- a. Lifting equipment to be clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use, the table of maximum loads should be used by the driver/operator;
- b. Each winch on a lifting machine must at all time have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit;
- c. Lifting equipment be fitted with a brake or other applicable device capable of holding the MML. This brake or device must automatically prevent the downward movement of the load when the lifting power is interrupted;
- d. Lifting equipment fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML;
- e. Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the machine and where no standard is available the factor of safety must be:
 - chains – 4 (four)
 - steel wire ropes - 5 (five)
 - fibre ropes- 10 (ten)
- f. Every hook or load attaching device must be designed as such or fitted with a device that will prevent the load from slipping off or disconnecting;
- g. Every lifting machine must be inspected and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the

manufacturers prescription or to 110% of the MML in addition all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person;

- h. All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book; and
- i. No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by an inspector of the Department of Employment and Labour.

5.9 Lifting tackle

The following requirements will apply to lifting tackle:

- a. Manufactured of sound material, well constructed and free from latent defects;
- b. Clearly and conspicuously marked with an identity number;
- c. Maximum mass load factor of safety:
 - Natural fibre ropes - 10(ten)
 - Man-made fibre ropes and woven webbing - 06(six)
 - Steel wire ropes – single rope - 06(six)
 - Steel wire ropes – combination slings - 08(eight)
 - Mild Steel chains - 05(five)
 - High tensile/alloy steel chains - 04(four)
- d. Steel wire ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident and must be examined by a competent person every three months for this purpose and the results recorded in a designated log book.

5.10 Construction vehicle and mobile plant operators

The following requirements will apply to construction vehicle and mobile plant operators:

- a. Only certified and/or competent employees may be allowed to operate any construction vehicle and mobile plant.
- b. Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.
- c. Only employees duly authorised to do so may operate any construction vehicle and mobile plant.
- d. Only employees physically and psychologically fit, i.e. in possession of a medical certificate of fitness, may be allowed to operate any construction vehicle and mobile plant.

5.11 Construction vehicles and mobile plant (Construction Regulation 23)

Construction vehicles and mobile plant should be formally and duly inspected by a competent person appointed by the principal contractor prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment

must be required to comply with this specification as well as the OHSACT and Regulations.

Construction vehicles and mobile plant must be:

- a. Of acceptable design and construction;
- b. Maintained in good working order;
- c. Used in accordance with their design and intention for which they were designed;
- d. Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons to be allowed to drive construction vehicles and mobile plant;
- e. Provided with safe and suitable means of access;
- f. Fitted with adequate signalling devices to make movement safe including reversing;
- g. Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;
- h. Provided with roll-over protection;
- i. Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book and any defects addressed as matter of urgency;
- j. Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and
- k. Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

No loose tools, material etcetera is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.

No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose.

The construction site must be organised to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated.

All construction vehicles and mobile plant daily inspection records must be kept in the occupational health and safety file.

5.12 Electrical installations (Construction Regulation 24)

Any electrical work undertaken as part of the project, including the installation of temporary electricity for construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations.

The principal contractor must ensure that:

- a. Existing services are to be located and clearly marked before construction commences and during the progress thereof;
- b. Where the abovementioned is not possible, employees with jackhammers etc. will be protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etcetera;
- c. Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;
- d. Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the occupational health and safety file;
- e. Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the occupational health and safety file; and
- f. A competent person appointed in writing must control all temporary electrical installations.

5.13 Electrical and mechanical lockout

An electrical and mechanical lockout procedure must be developed by a competent person (i.e. duly qualified and certified electrician) and signed off by the Construction Manager. The principal contractor must ensure that the lockout procedure is duly implemented and maintained, i.e. all contractors on site are informed of and adhere to this lockout procedure.

5.14 Use and storage of flammables (Construction Regulation 25)

The principal contractor must ensure that:

- a. No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions is taken;
- b. Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with consistent access control measures in place and sufficient fire fighting equipment installed and fire prevention methods practiced for example proper housekeeping;
- c. Only one day's quantity of flammable is to be kept in the workplace;
- d. Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas; and
- e. Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.

5.15 Hazardous chemical agents (HCA)

The principal contractor must ensure that:

- a. Employees receive the necessary information and training to be able to use, handle and store hazardous chemical agents safely;

- b. Employees obey lawful instructions regarding:
 - The wearing and use of personal protective equipment;
 - The use, handling and storage of hazardous chemical agents;
 - The prevention of the release of hazardous chemical agents;
 - The wearing and using of exposure monitoring and measuring equipment;
 - The cleaning up and disposal of materials containing hazardous chemical agents; and
 - Housekeeping, personal hygiene and the protection of the environment;
- c. The risk assessments required in terms of Construction Regulation 9 include employee exposure to hazardous chemical agents and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical agents present or used in the workplace.
- d. Suppliers provide the necessary information in the form of safety data sheets (SDS) regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances. The safety data sheets have to meet the following –
 - be GHS (UN Globally Harmonized System) compliant;
 - classify the HCA, in accordance with regulation 14;
 - be reviewed at least once every five years; and
 - be amended whenever necessary to ensure that it contains correct and current information, aligned to its GHS classification required by regulation 14(c), which includes new data regarding the hazard presented by an HCA that changes its classification in a category or subcategory of a hazard class or results in its classification to another hazard class; and
- e. An up-to-date list is kept on site of hazardous chemical agents stored and used together with the safety data sheet of the said hazardous chemical agents;
- f. Hazardous chemical agent containers should be clearly and duly labelled, i.e. label to include –
 - the product identifier and, where applicable, the United Nations proper shipping name;
 - the chemical identity of all the ingredients contributing to the final GHS classification of the HCA;
 - the name, address, and business telephone number of the manufacturer or importer;
 - an emergency telephone number where support is available;
 - a signal word, hazard statement, precautionary statement and hazard pictogram consistent with the HCA's GHS classification, made in accordance with regulation 14;
 - the quantity of the HCA in the package, unless this quantity is specified elsewhere on the package;
 - the quantity of each HCA ingredient;
 - any information about the hazards, and first-aid and emergency procedures relevant to the HCA, not otherwise included in the hazard statement or precautionary statement;
 - first-aid measures; and

- an expiry date, where applicable.
- b. Hazardous chemical agents are not cleared by using compressed air but should be vacuumed;
- c. No person eats or drinks in an area where hazardous chemical agents are stored or utilised; and
- d. Hazardous chemical agents waste is disposed of safely in terms of hazardous waste disposal requirements.

5.16 Storage of flammable and hazardous chemicals (Regulations for hazardous chemical agents)

See paragraphs 5.14 and 5.15 above.

5.17 Fire prevention and protection

The principal contractor must ensure that:

- a. The risk of fire is avoided;
- b. Sufficient and suitable storage of flammables is provided;
- c. All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;
- d. A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;
- e. Employees are informed regarding emergency evacuation procedures and escape routes;
- f. Emergency escape routes are kept clear at all times and clearly marked;
- g. Evacuation assembly points are demarcated and made known to employees;
- h. Evacuation is regularly practiced to ensure that all persons are evacuated timeously and;
- i. Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind; and
- j. A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

5.18 Housekeeping (Construction Regulation 27)

The principal contractor must ensure that:

- a. Housekeeping is continuously implemented and maintained;
- b. Materials and equipment are properly stored;
- c. Scrap, waste and debris are removed off site regularly;
- d. Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- e. Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;
- f. An unimpeded work space is maintained for every employee;
- g. Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done;

- h. As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials; and
- i. The walls and roof of every indoor workplace be sound and leak-free.

5.19 Stacking and storage (Construction Regulation 28)

The principal contractor must ensure that:

- a. A competent person is appointed in writing to supervise all stacking and storage on a construction site;
- b. Adequate storage areas are provided and demarcated;
- c. The storage areas are kept neat and under control;
- d. The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- e. The items in the lower layers can support the weight exerted by the top layers;
- f. Cartons and other containers that may become unstable due to wet conditions are kept dry;
- g. Pallets and containers are in good condition and no material is allowed to spill out;
- h. The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Employment and Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang);
- i. The articles that make up a single tier are consistently of the same size, shape and mass;
- j. Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- k. No articles are removed from the bottom of the stack first but from the top tier first;
- l. Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;
- m. Stacks that are in danger of collapsing are broken down and restacked;
- n. Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- o. Stacks are built in a header and stretcher fashion and that corners are securely bonded; and
- p. Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

5.20 Eating, changing, washing and toilet facilities (Construction Regulation 30)

5.20.1 Toilets

- a. The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.

- b. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees.

5.20.2 Showers

The principal contractor is required to provide shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every fifteen employees. If provided these shower facilities are to meet the requirement set by Facilities Regulation 5(d).

5.20.3 Change rooms

The principal contractor is required to provide changing facility for each sex.

5.20.4 Eating facility

The principal contractor is required to provide an eating facility sheltered from the sun, wind and rain.

5.21 Personal and other protective equipment (Sections 8, 15 and 23 of the OHSACT)

The principal contractor is required to proactively identify the hazards in the workplace and deal with them on an ongoing basis. He/she must either remove them or, where impracticable take steps to protect employees and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply re-engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.

Where it is not possible to create an absolutely safe and healthy workplace the principal contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the principal contractor maintain the said equipment, that he/she instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s in a consistent and correct manner.

Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other valid

reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.

The principal contractor may **not charge any fee** for protective equipment prescribed by him or her **but may charge for equipment under the following conditions:**

- Where the employee requests additional issue in excess of what is prescribed;
- Where the employee has blatantly abused or neglected the equipment leading to early failure; and
- Where the employee has lost the equipment.

Please note: Bullet points two and three above should form part of a formal disciplinary process, i.e. following a disciplinary hearing.

5.22 Tools and equipment

5.22.1 Portable electrical tools and equipment (Electrical Machinery Regulation 9)

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etcetera. In addition electrical appliances such as fridges, hotplates, heaters, etcetera must be inspected regularly but at least on a weekly basis and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.

This equipment -

- Must be maintained in good condition at all times to prevent an electrical shock to the user;
- The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

5.22.2 Hand tools

Section 8(2)(a) of the OHSACT stipulates that the employer shall ensure that plant and machinery, including hand tools, are safe for use. To meet this requirement hand tools ought to be inspected, recorded and defects reported at intervals specified. The inspection registers also serves as proof that a formal process was implemented and maintained to ensure that hand tools are safe for use.

To ensure compliance with the above, the principal contractor shall implement and maintain a process to ensure that hand tools utilised are formally inspected and declared safe for use.

5.22.3 Defective tools and equipment

Any defective tools or equipment must be placed in a designated “quarantine” area or clearly marked as “defective” and steps be taken to ensure that these are no longer allowed to be used.

The use of defective hand tools must be strictly managed with no exceptions being allowed. Documentary proof must also be kept of actions taken against supervisors allowing and employees using unsafe tools to ensure that this could be used in a court of law to prove that the usage of such tools was not generally tolerated.

5.23 Public health and safety (Section 9 of the OHSACT)

The principal contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes among others:

- a. Non- employees entering the site for whatever reason;
- b. The surrounding community; and
- c. Passers by the site.

Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.

All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.

5.24 Excavations (Construction Regulation 13)

All excavation work has to comply with the following:

- 5.24.1 Excavation work must be carried out under the supervision of a duly competent person who has been appointed in writing.
- 5.24.2 Before excavation work begins the stability of the ground must be evaluated.

- 5.24.3 Whilst excavation work is being performed, the principal contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.
- 5.24.4 No person may be required or permitted to work in an excavation that has not been adequately shored or braced.
- 2.24.5 Where the excavation is in stable material or where the sides of the excavation are sloped back to at least the maximum angle of repose measured relative to the horizontal plane, shoring or bracing may be left out **but only after** written permission has been obtained from the appointed competent person.
- 5.24.6 Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.
- 5.24.7 Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained, before excavation proceeds, whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavation supervisor.
- 5.24.8 No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load. Best practice requires a one meter clearance so as to reduce the pressure on the side walls as well as risk of material falling onto persons inside the excavation.
- 5.24.9 Neighbouring/adjoining buildings, structures or roads that may be affected or endangered by the excavation must be suitably protected.
- 5.24.10 Every excavation must be provided with means of access that must be within 6 metres of any employee within the excavation at any time. Should ladders be utilised for this purpose they should be duly secured.
- 5.24.11 The location and nature of any existing services such as water, electricity, gas, telecommunication etcetera must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.
- 5.24.12 Every excavation, including the shoring and bracing or any other method to prevent a possible collapse, must be inspected by the appointed competent person as follows:
- Daily before work commences
 - After an unexpected collapse of the excavation or part thereof
 - After substantial damage to any support

- After rain

5.24.13 The results of any inspections must be recorded in a register kept on site in the health and safety file.

5.24.14 Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off, on all sides, to at least one meter high and as close to the excavation perimeter as practicable. All such excavations must also be provided with warning lights or visible boundary indicators after dark or when visibility is poor.

5.25 Working in confined spaces

5.25.1 Ventilation

The confined space must be opened and allowed to ventilate for at least 15 minutes before entering the confined space. All confined spaces must be barricaded and manned at all times.

A gas monitor must be lowered to the bottom of the confined space with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space must be force ventilated by means of a blower for at least 15 minutes where after the air must be tested again. Under no circumstances may any space be entered while there is a toxic/flammable gas present.

After the undertaking of the necessary work, the person in charge of the activities must confirm that all the employees are accounted for.

5.25.2 Entering a confined space

When entering a confined space, the person entering the space must wear a safety harness and fully operational gas detector. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the confined space. At least one person on the surface must be trained in basic first-aid (level 1) with proof of such training as well as a fully equipped first aid box available on site.

No person shall remain within a confined space for a period of more than one hour at a time. A minimum of 5 minute rest periods on the surface must be taken after this period before re-entering.

Should the alarm sound on the gas monitor, all employees must exit the confined space and the immediate area must also be evacuated immediately. The area must be properly ventilated and re-tested before re-entering the confined space. Professional support should be called for if necessary.

Employees must be provided with flameproof lighting when entering a confined space with the possibility of flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any confined space or in its vicinity.

5.25.3 General

All employees working in confined spaces must be issued with fully functioning gas monitoring equipment and safety harnesses. All these employees must be trained (including refresher training on a regular and continuous basis) in the use thereof.

5.25.4 Safety equipment

All teams must be issued with fully functional gas monitoring equipment and safety harnesses where applicable. All employees must be trained (including refresher training on a regular and continuous basis) in the use thereof.

5.25.5 General records

The following records shall be implemented and maintained by the principal contractor:

- a. Confined space entry permits
- b. Confined space entry registers
- c. Safety harness and gas monitoring equipment registers
- d. Risk assessments
- e. Incident registers

5.25.6 Training

- a. All employees that have to enter a confined space must be formally trained and confirmed competent before being required to enter such areas (new employees to complete this training and be declared competent before allowed to work in a confined space).
- b. Refresher courses must be attended by employees at least once every 2 years or immediately if new methodologies or equipment are adopted or acquired.
- c. Continuous onsite training and support by supervisory staff should be undertaken and enforced where required.

5.26 Temporary work

- a. Temporary work must be carried out under the supervision of the competent person designated in writing.
- b. Temporary work structures must be so designed, erected, supported, braced and maintained that they will be able to support any vertical or lateral loads that may be applied.

- c. No load may be imposed onto a structure that the structure is not designed to carry.
- d. Temporary work must be erected in accordance with the structural design drawings for such temporary work and if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the temporary work.
- e. All drawings pertaining to the temporary work must be kept and be available on site.
- f. All equipment used in the erection of temporary work must be checked by a competent person before use.
- g. The foundation or base upon which the temporary work is erected must be able to bear the weight and keep the structure stable.
- h. Employees erecting temporary work must be trained in the safe work procedures for the erection, moving and dismantling of the temporary work.
- i. Safe access and emergency escape must be provided for employees.
- j. A competent person must inspect the temporary work structures that have been erected before, during and after pouring of concrete or the placing of any other load and thereafter daily until the temporary work is stripped. The dismantling must also be undertaken under the direct supervision of the appointed competent person. The results of all inspections must be recorded in a register kept on the site health and safety file.
- k. The temporary work must be left in place until the designated competent person has authorised its stripping in writing.
- l. Any damaged temporary work must be repaired and/or rectified without delay.
- m. Deck panels must be secured against displacement.
- n. The slipping of employees and other persons on release agents on deck panels must be prevented at all times.
- o. Employees' health must be protected against the use of solvents, oils or other similar substances.

5.27 Welding, flame cutting or similar operations

Should any welding work be undertaken as part of emergency repairs to plant and equipment on site or as part of the construction activities, the principal contractor must ensure that:

- 5.27.1 A competent person will be appointed to supervise welding, flame cutting or similar operations on site.
- 5.27.2 The following rules will govern all welding and flame cutting or similar operations:
 - a. The welder will be trained regarding the safe use/operation of the equipment.
 - b. The welder and his assistant will be provided with effective and appropriate personal protective equipment and/or clothing.
 - c. Cables and electrode holders will be effectively insulated.
 - d. The workplace will be effectively screened off to prevent bystanders from being affected by the welding rays or they will

- be provided with personal protective equipment.
- e. Special precautions will be taken where welding is undertaken in confined spaces e.g. proper and sufficient ventilation will be provided.
 - f. In wet or damp conditions the welding equipment and the welder will be properly insulated and someone will be on standby to assist in the event of any emergency.
 - g. A qualified person will certify in writing that it is safe to enter and work in a specific confined space before welding or flame cutting is undertaken.
 - h. No welding, flame cutting, grinding, soldering or similar work shall be undertaken in respect of any drum, vessels or similar object or container where such object or container-
 - is completely closed, unless the rise in internal pressure cannot render it dangerous; or
 - contains any substance which, under the action of heat may explode or react to form dangerous or poisonous substances.
 - i. Where pressure vessels/welding cylinders containing oxygen or acetylene are transported or used, the proper precautionary measures will be taken against bumping, falling, rolling etcetera.
 - j. Gas welding hoses may only be joined with approved connectors and clamps.
 - k. No oil or grease may be applied to oxygen valves and fittings.
 - l. It is a sound practice to store pressure vessels and/or welding cylinders vertically and to secure them by means of a chain.
 - m. Acetylene cylinders may never be inclined in excess of 45°.
 - n. Proper and adequate fire prevention measures will be instituted and maintained for as long as the welding continues.
 - o. Where explosive and/or flammable vapours are present welding will only be done under “hot work” permits.

5.28 Transportation of employees

- 5.28.1 Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried. No employee may be permitted to stand on the back or sit on the edge of the vehicle.
- 5.28.2 The vehicle utilised for the transportation of employees must be equipped with a serviced and fully operational fire extinguisher.
- 5.28.3 Regulation 247 of the National Road Traffic Act, Number 93 of 1996 (NRTA) stipulates that the principal contractor shall not allow employees to be transported in a vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of –

- a. at least 350 mm above the surface on which employees are seated; or
- b. at least 900 mm above the surface on which employees are standing,

in a manner and with a material of sufficient strength to prevent employees from falling from such vehicle when it is in motion.

5.28.4 Regulation 247 of the NRTA also stipulates that the principal contractor shall also not allow any employees to be conveyed in the goods compartment of a vehicle together with any tools or goods, except their personal effects, unless that portion in which the employees are being conveyed is separated by means of a partition, from the portion in which such goods are being conveyed.

5.29 Exposure to poisonous animals or insects

Construction work is undertaken mostly in a greenfield environment where employees and other persons visiting could be exposed to poisonous animals and insects.

The principal contractor shall ensure that the following are duly adhered to:

- a. the emergency procedure be expanded to provide for the effective treatment of employees or other persons visiting exposed to bites or stings from poisonous animals and insects, i.e. the contact details of the nearest medical unit that could treat employees exposed to bites or stings be obtained and arrangements be made with this service provider on the procedures to be followed to ensure swift response when required;
- b. confirmation be obtained from this medical unit that they have anti venom reserved to treat employees or other persons visiting that may be exposed to snake bites or scorpion stings;
- c. competent first aiders be available to facilitate the treatment of employees or other persons visiting exposed to stings or bites; and
- d. the potential exposure posed by poisonous animals or insects and awareness thereof is discussed with all employees as part of the toolbox talks and general awareness training and other persons visiting as part of the pre-site visit induction process.

5.30 Working in inclement weather

The principal contractor shall implement an early warning system to identify inclement weather and to prevent such weather from posing negative implications on the safety of employees and other persons visiting.

The early warning system shall as a minimum provide for the following:

5.30.1 Construction work done during electrical storms

- a. The principal contractor shall ensure that all employees are removed from heights and all employees are as safe as possible, in inclement weather conditions.
- b. No work is allowed on the construction site during electric storms where employees cannot be protected from it. Protection involves employees being restricted to:
 - eating area fitted with a lightning mast
 - workshops
 - inside buildings
- c. No work is allowed in electrical storms on top of open structural steel, even when earthed.
- d. No work is allowed on heights when the lightning is within a 10 kilometre radius.
- e. After inclement weather on-site risk assessments will be reviewed to include wet conditions.

5.30.2 Lifting equipment operations during inclement weather

- a. Lifting operations will stop during lightning within a 10 kilometre radius and wind above 28 km/h, and the lifting equipment operator will not be allowed to leave the lifting equipment with the booms extended.
- b. Lifting operations will stop during rain, rigging and hand lifts.
- c. Booms on all lifting equipment will be retracted.
- d. All rigging operations will stop and employees will be removed from site.

5.30.3 Construction work done during rain

- a. During rainy conditions all work on steel structures will stop.
- b. No electrical tools will be used during rainy weather in open areas.
- c. Work can be done in water proof areas where there is a zero risk for electrocution.
- d. Areas that may be cleared for work during rain includes:
 - workshops
 - offices
 - work on ground level with the provision that the area is maintained in a safe dry condition

5.30.4 Scaffolding activities during inclement weather conditions

During inclement weather only limited scaffolding actions will be permitted i.e. erecting and dismantling activities.

Guidelines for safe choices:

Weather type	Building and dismantling of scaffolding
Lightning	Stop all activities
Light rain	Stop all activities
Heavy rain	Stop all activities
Wind <28 km/h	Full use
Wind >40 km/h	Stop all activities
Light mist	Full use
Heavy mist	Full use
Hail	Stop all activities

5.30.5 Driving in inclement weather

The principal contractor shall ensure that the danger of driving in wet conditions is adequately covered in a risk assessment.

The risk assessment will include, but not limited to:

- route planning
- speed reduction
- planning for emergency situations
- driving precautions for slippery surfaces
- visibility hazards

5.31 Pressure equipment

The principal contractor must ensure that:

- any pressure equipment in use is subjected to a formal inspection and pressure test by an approved inspection authority before commissioning, after installation, re-erection or repairs (i.e. Pressure Equipment Regulation 11 has reference). Once installed, similar inspections and pressure tests are required every 36 months.
- formal registers by an approved inspection authority are duly maintained (with copies readily available in the occupational health and safety file) to proof that any pressure equipment in use was subjected to the necessary inspections and pressure tests.
- pressure equipment (such as compressors) is provided with all appropriate safety accessories required to ensure that it is safe for use (i.e. Pressure Equipment Regulations 10(1) has reference). This include but are not limited to safety latches to secure the pressure hoses to the compressor's outlet valves as well as the pressure driven equipment at the other end of the hoses to prevent these pressure hoses from causing serious injuries to employees should their securing mechanisms fails and they become loose whilst under pressure.
- should gas fuel be utilised, either on site or as part of the construction process, no person be allowed to install a fixed appliance, equipment or system for gas fuel unless such person is a holder of a certificate of registration (i.e. Pressure Equipment Regulation 17(3) has reference).

5.32 Occupational health

The principal contractor shall ensure that –

- a. the work area and surrounding site, which is part of the operational area, are at all times maintained to a reasonably practicable level of hygiene and cleanliness; and
- b. all areas, where work is performed, are kept neat, clean and orderly without any unnecessary waste.

5.32.1 Risk assessment

The principal contractor shall undertake a risk assessment to identify the potential health hazards that employees and other affected persons are or may be exposed to during the construction process and also identify the appropriate risk mitigation measures to be taken and maintained to ensure the health of employees and affected persons.

5.32.2 Health hazards

The principal contractor shall ensure that appropriate measures are put in place to prevent exposure to health hazards such as hazardous biological agents, viruses, the accidental inhalation, ingestion, and absorption of any hazardous substance, high noise level exposure etcetera.

5.32.3 Medical surveillance

The principal contractor shall provide for the management of an employee medical surveillance program that will ensure the following:

- a. All employees on site undergo routine medical examinations specific to the work to be performed taking into account the hazard and risk exposures. This must address pre-employment examination, periodic examination as required, and exit examinations.
- b. Where medical examinations are governed by legislation, the principal contractor shall ensure the legislative requirements are complied with by all employees.
- c. All the employees performing work on site are declared medically fit for the work they are to perform.
- d. Employees are notified confidentially by the construction health and safety officer or other appropriate delegated person of the results and interpretation of their medical examinations on any abnormal findings, health conditions, referrals or recommendations made as well as any restrictions that may become evident from medical examinations.
- e. Maintain written confirmation/proof of the consultation, notification and communication with the employee, provided that, the required proof does not contain any confidential, sensitive, highly personal

or information which might place the employee in an uncomfortable or disconcerting state or situation when such information is known by others.

- f. In the event of referrals or recommendations for additional testing or consultation with health specialists, proof of action taken by the principal contractor should be maintained. Action taken could be a scheduled appointment with a specialist, an appointment for the additional testing etcetera.
- g. Copies of valid medical certificates of fitness are available in the occupational health and safety file. The requirements above are founded on a duty of care towards employees to ensure employees are made aware of any health conditions or health restrictions which may have resulted from or may be aggravated by work activities on site or associated areas. The consultation, notification and communication with the employee should, with the employees' written consent, be made available upon request for verification by the client, regulatory authority or their representatives.

5.32.4 SARS-CoV-2

In line with the Code of Practice: Managing exposure to SARS-CoV-2 in the workplace of 2022, the principal contractor must develop a Workplace Plan addressing among others the following:

- a. Appointment of a SARS-CoV-2 Compliance Officer.
- b. Detailed procedure adopted to reduce the risk of infection or transfer to employees or affected persons. The procedure should among others provide for –
 - 1. No employee may be allowed to perform their duties or to enter the employment premises if the employee is not wearing a face mask while performing their duties.
 - 2. Gatherings and meetings at the workplace for work purposes are permitted subject to strict adherence to all health protocols and social distancing measures, i.e. attendance to be limited to fifty percent (50%) of the meeting venue's capacity.
 - 3. Social distancing – how will that be implemented and maintained. If not practicable physical barriers to be placed between work stations.
 - 4. Measures taken to minimise contact between employees as well as employees and other persons.
 - 5. Response when an infected person (i.e. tested positive or is symptomatic) is identified.
 - 6. Isolation area to be provided and maintained on site to ensure that any person presenting symptoms could be isolated whilst arrangements are made to transport the person to a facility for self-isolation.
 - 7. Return to work protocols, i.e. who will evaluate and what medical information to be submitted when an employee

wants to return to work, for example a negative SARS-CoV-2 test.

8. All employees to be duly inducted as well as regularly informed to understand the severity, relevant information as well as control measures to comply with requirements.
 9. Ventilation inside confined spaces such as offices.
 10. Raise awareness among construction workers of the risk of infection, promote early diagnosis and assist affected persons.
 11. Display suitable awareness posters at all applicable areas such as high-traffic areas as well as replacement to ensure relevancy.
 12. Provide and display information regarding counselling, support and care for those that are affected.
 13. Identify, provide and maintain the required personal protective equipment based on a relevant risk assessment, including the correct use, removing and replacement as well as disposal.
 14. Encourage employees to report and undergo SARS-CoV-2 testing should they encounter any applicable symptoms.
 15. Establish methods of identifying persons who may be at risk, and support them without attracting stigma and discrimination. This could include employees who have conditions that put them at higher risk of serious illness (e.g. diabetes, HIV/AIDS, tuberculosis, heart and lung disease).
 16. Management of medical surveillance.
 17. Management of SARS-COV-2 waste, i.e. used masks, gloves etcetera, as this is regarded as infected or when applicable hazardous waste and as such waste bins with lids and labelled as hazardous waste as well as sealed bags to be provided.
 18. The procedure adopted to deal with any employee exercising the right to refuse to work due to circumstances which, with reasonable justification, appear to that employee to pose an imminent and serious risk of him/her being exposed to SARS-CoV-2 virus infection.
- c. Reporting of any incidents to the Project Manager and client.
 - d. Development of project specific business continuity plan.

5.32.5 Smoking

The principal contractor must ensure that a smoking policy is developed and maintained for the project providing among others for -

- a. no person to be allowed to smoke on site, other than in demarcated smoking areas.
- b. The establishment and maintenance of designated smoking areas in terms of the Tobacco Product Control Act (No. 83 of 1993) as amended and the National Health Act (No. 61 of 2003) as amended.

- c. The following signage should also be displayed at the designated smoking areas:
 - 1. "Smoking of tobacco products is harmful to your health and to the health of children, pregnant or breastfeeding women and non-smokers. For help to quit phone (011) 720 3145."
 - 2. "Any person who fails to comply with this notice shall be prosecuted and may be liable to a fine."

6. Health and safety policy

The principal contractor has to provide the Client, as an annexure to the health and safety plan, with a detailed health and safety policy outlining the principal contractor's stance on and principles adopted for health and safety.

7. Cost for health and safety measures during the construction process

To enable the Client to comply with Construction Regulation 5(1)(g), all potential principal contractors submitting tenders/bids have to demonstrate to the Client that sufficient provision has been made for the cost to implement and maintain the health and safety plan proposed by the principal contractor to meet the requirements of this health and safety specification as well as that of the OHSACT and its Regulations.

A detailed schedule of costs has to be included in the health and safety plan submitted as part of the potential principal contractor's tender document. Failure by the principal contractor to adhere to this requirement will force the Client to reject the tender/bid in terms of Construction Regulation 5(1)(h).

8. Project specific risk assessment requirements

See Annexure 5.

9. Overview of annexures

- Annexure 1: Legal compliance assessment.
- Annexure 2: Measuring injury experience.
- Annexure 3: SHE risk management report.
- Annexure 4: Guide to risk assessments.
- Annexure 5: List of risk assessments.

10. Enquiries

For any enquiries regarding this occupational health and safety specification, please

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